

THE NATIVE HAWAIIAN ALTERNANTHERA (AMARANTHACEAE)
HAWAIIAN PLANT STUDIES 63

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Amaranthaceae

Alternanthera Menziesii St. John, Jardin Botanique del'Etat, Bruxelles, Bull. 27(1): 49-50, 52-54, fig. 2, 1957.

A. echinocephala sensu Fosb., *Micronesica* 2: 143-144, 1966, non (Hook.f.) Christophersen, *Nyt Mag. Natur.* B, 70: 73, 1932.

Discussion: *Alternanthera Menziesii* was described by the writer, based wholly upon a collection by A. Menzies, labelled only Sandwich Islands (BM). Dr. Archibald Menzies was surgeon and naturalist under Capt. George Vancouver on his world voyage on the "Discovery." During the years from 1792 to 1794, they made three visits to the Sandwich (or Hawaiian) Islands, and landed on the six largest islands. Menzies made trips and collections from the sea shore to as high as the summit of Mauna Loa (13,680 ft alt.), but all his specimens are labelled merely Sandwich Islands. He kept a journal of his trip. The Hawaiian portion of this has been published (Menzies, ed. Wilson, 1920) and this totals 199 pages in length. It includes accounts of people, places, climate, geology, birds, and I believe the only mention of plants is that on Hualalai there were *Sophora* and *Dodonaea*. Nowhere does he list his plant collections and their localities, so his journal is not helpful in phytogeography and taxonomy.

Degener and Sherff (1935) had described a new genus, *Zemisne Menziesii*, based upon a Menzies collection marked Sandwich Islands. This proved to be a member of the genus *Scalesia*, and a synonym of *S. affinis* Hook f., subsp. *gumifera* (Hook. f.) Harling, a native of the Galapagos Islands.

Later, in his index under *Zemisne*, Degener (Fl. Haw., K¹⁴, 12/27/57) wrote, "Another genus and species collected by Menzies and to be considered Galapagean rather than Hawaiian until

evidence turns up to prove the contrary, is the amaranthaceous Alternanthera menziesii (sphalm for menziesii) St. John, in Bull. Jard. Bot. Etat Brux., 27: 49-54, 1957."

Fosberg (1966: 143-144) expressed the same opinion and reduced A. Menziesii to the synonymy of A. echinocephala (Hook f.) Christophersen, of the Galapagos and Peru. This species is well presented in Wiggins and Porter (1971: 187, fig. 35a-d).

The writer has recently had the opportunity to compare his species with good collections of A. echinocephala which is a species with the blades 4-9 cm long, 1-3 cm wide, lanceolate to elliptic, mucronate; sepals subequal; filament tube 4-5 mm long; anthers about 2 mm long; pseudostamindia laciniate at tip, shorter than or equalling the stamens. A. Menziesii has the blades 1-3.2 cm long, 3.5-6.5 mm wide, lance-linear, obtuse; sepals unequal, the shorter ones 5/6 the length of the longer ones; filament tube 5-6 mm long; anthers 1.4 mm long; and the pseudostamindia ligulate, acute, exceeding the anthers.

These differences seem to the writer sufficient to justify A. Menziesii as a distinct species. It has not been collected subsequent to Menzies' time. If found on the Sandwich Islands, as labeled by Menzies, it is a species descended from similar species native to the Galapagos or South America. This is quite possible, and there are other Hawaiian species of similar American ancestry.

An herbarium specimen may bear an incorrect label, and the case of the Zemisne or Scalesia implies that other Menzies collections may be in error. There is, however, other evidence on this question. While hunting in the British Museum of Natural History for the Sandwich Islands plants collected by David Nelson of Capt. Cook's third voyage, the author searched in all plant families that occur in Polynesia, and in their genera of like distribution, and in all genera that he did not recognize, and in such European genera as an 18th Century botanist might have put an Hawaiian plant in. In this search totalling five weeks,

lists were also kept of collections by other early botanists. One of these was a list of the Sandwich Islands plants collected by Menzies. It totals 112 species, and of these one is an adventive still present in the islands, but the remaining 111 species are indigenous, or endemic, or cultivated crop plants of early aboriginal introduction. All of these are genuine Hawaiian plants. Thus it is evident that the accuracy of the geographic data on Menzies' Sandwich Islands plants is almost 100%. The writer sees no reason to doubt that Menzies collected a species of Alternanthera on the Sandwich Islands.

Literature Cited

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- Wiggins, Ira L. and Duncan M. Porter, 1971. Flora of the Galapagos Islands. XX + 1-998, Stanford University Press, Stanford.